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### (54) Toilet brush with dispensable head

(57) Toilet brush with a disposable head, comprising two independent parts before use, namely a hollow cylindrical body (1) and a disposable brush, secured to each other by means of a manually activated attachment mechanism formed by a resilient element, preferably a spring (10) which, when pressed via the pushbuttons (7) and (8) located on the side of the cylindrical body (1), produces the horizontal displacement of the bases (11) and (12) of the laminar stems (13) and (14) fitted with harpoon-shaped tips (15) and (16) which penetrate the rectangular grooves (17) and (18) located in the base (19) of the semi-circumference (20) forming the brush, becoming secured to the widened area at the end of the grooves. The hollow handle is closed on both ends by rounded caps (2) and (3), which close the entry and exit of the liquid, and presents circular concave lateral undercuts (4) and (5) through which pressure is exerted on the disinfectant liquid container (6).

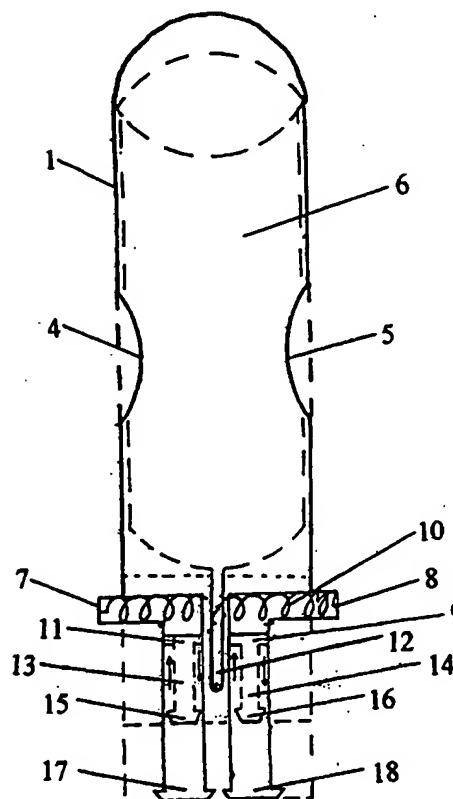


FIG. 2

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## Description

### OBJECT OF THE INVENTION

[0001] The object of the present invention, as the title implies, is to provide a brush of the type used for cleaning toilets that comprises two bodies, one disposable and the other formed by a handle designed to be held by hand, the interior of the handle incorporating a means of securing the body that forms the cleaning element or brush (so called because normally it comprises a plurality of different thickness bristles). The brush thus formed allows for efficient cleaning, preventing germs to adhere and collect between the bristles of the brush in the course of internally cleaning a toilet.

### BACKGROUND OF THE INVENTION

[0002] The important solution now provided by this article consists in maintaining the toilets clean by means of an element which does not collect germs from each cleaning operation. It is known in the current state of the art for standard brushes to incorporate a rigid handle in the upper part and a brush formed by a plurality of filaments in the lower part. After use, the brush is placed in a container which collects the residues retained between the bristles of the brush, this evidently being a source of germs, bacteria and bad smell.

[0003] The invention patent WO9530366, "Disposable cleaning scraper and fabrication procedure thereof" comprises a body that is totally soluble in water, which body incorporates a dissolution-retarding substance and presents a laminar design, with a long section and a shorter wider section, in the shape of a tennis racket. The utility models U9401245, "Disposable cleaning brush", made of paper or paper by-products; U9802587, "Single use disposable brush", a palette-shaped brush made of cardboard; and U9901928, "Brush for cleaning fecal residues disposable through the toilet", of a rectangular shape, with an intermediate fold which opens during use, also made of cardboard, likewise exist for similar purposes.

[0004] Concerning the use of disinfectants contained in the brush, the utility model U9900696, "Toilet cleaning brush with container and dosing mechanism", recognizes said use in the state of the art and is characterised in that it supplies the disinfecting agent through holes in the brush bristles.

[0005] Although the above applications are intended for maximum hygienic conditions in the cleaning of toilets via disposable devices or the use of disinfectant liquid dispensers, they all include totally disposable elements, contrary to combining two elements - one of them being disposable and the other, corresponding to the brush handle, non-disposable. In no instance is a solution proposed comprising a cleaning device formed by two independent elements that can be readily assembled for use.

[0006] The object of the present invention has therefore been devised in order to solve the problems deriving from the use of these disposable brushes.

### DESCRIPTION

[0007] The brush with disposable head for cleaning toilets comprises two clearly differentiated sections: on the one hand, the handle, preferably formed by a hollow cylindrical body occluded at both ends; and on the other hand, the head, preferably formed by a brush of a semicircular shape and made of bio-degradable material, such as hardened paper or similar material.

[0008] The handle, preferably in the form of a cylindrical body, is closed at either end by rounded surface caps applied by threading or pressure. The walls of the cylindrical body are formed with circular and concave undercuts allowing manual pressure to be exerted on the disinfectant liquid container installed inside the handle. Each undercut is arranged along the side of the cylindrical handle, adequately spaced apart to permit pressure from the thumb and index finger while holding the cylindrical body.

[0009] The handle also comprises pushbuttons which activate a system for securing and releasing the brush. The interior of the handle is fitted with a container of a shape generally identical to that of the handle, although shorter, for the disinfectant liquid that is dispensed by the user by pressing on the circular and concave undercuts located on both sides of the cylindrical handle.

[0010] The brush is formed by a circumference of slightly hardened and bio-degradable paper with a texture that is coarser than that of the paper bristles lodged in the multiple holes drilled throughout the convex surface of the semi-circumference that forms the brush. The base of the circumference is fitted with grooves, preferably of a rectangular shape, which constitute a means of securing the brush to the handle.

[0011] The advantages of the brush that is the object of the invention may be readily understood from the above description: the fact that the brush or head is disposable avoids the accumulation of germs and the bad smells that prevail in the use of conventional brushes, in view that the inventive brush is fabricated with a non-contaminating bio-degradable material. The disinfectant liquid contained in the brush handle effectively contributes to the cleaning and disinfection of the toilet without the need for additional products. A further advantage lies in the simplicity of the system whereby the two elements that form the brush are attached to each other during use.

[0012] In order to facilitate the understanding of the characteristics of the invention, several drawings are attached to this specification, forming an integral part thereof, wherein the following is represented:

## BRIEF DESCRIPTION OF THE DRAWINGS

[0013] Figure 1 shows the brush handle with the head off and the caps fitted onto its two ends, revealing both the circular concave undercuts on the sides of the cylindrical body that forms the handle and the pushbuttons which activate the system for securing and releasing the handle and the brush.

[0014] Figure 2 shows the brush handle in cross-section along the middle portion, the liquid disinfectant container and nozzle appearing in dotted line, and also shows the movement of the attachment lugs as they penetrate the brush (only the holes in the brush into which the handle is inserted are shown).

[0015] Figure 3 shows the brush, with grooves on its base for attaching the handle, and bristles throughout its surface.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

[0016] As shown in figure 1, the brush handle is preferably formed by a hollow cylindrical body (1) occluded at either end by rounded caps (2) and (3). Both sides of the cylindrical body (1) present circular concave undercuts (4) and (5) for exerting pressure on the disinfectant liquid container (6) located inside the handle. On the sides of the handle, press buttons or pushbuttons (7) and (8) activate the system for attaching the handle to the brush. The cap at the upper end (2) closes the disinfectant liquid container (6), the opening in said cap (2) allowing the container (6) to be refilled with liquid.

[0017] As shown in figure 2, the liquid container (6) is lodged inside the hollow cylindrical body (1) which constitutes the brush handle, said handle being made of a flexible material so that, when pressure is exerted on it by the user via the concave undercuts (4) and (5) located on the sides of the cylindrical body (1) that forms the handle, disinfectant liquid flows out of a nozzle (9), shaped like a narrow cylinder and located at the lower end of the container (6), and into the toilet for complete cleaning and disinfection. The manually operated handle-to-brush attachment system comprises a spring (10). When the pushbuttons (7) and (8) located on the sides of the cylindrical body (1) forming the handle are pressed, the spring (10) that attaches the pushbuttons causes a horizontal displacement of the bases (11) and (12) of the stems (13) and (14) that form the attachment system between the two independent brush elements. Said laminar elements (13) and (14) end in harpoon-shaped tips (15) and (16).

[0018] As shown in figure 3, the portion depicted becomes engaged in rectangular grooves (17) and (18) which end in a widened section and are located at the base (19) of the semi-circumference (20) which forms the brush, in such a way that the brush and the handle can be readily and securely assembled by virtue of the harpoon-shaped tips (15) and (16) in the stems (13) and (14), precluding disengagement unless pressure is ex-

erted on the pushbuttons (7) and (8). The surface of the semi-circumference (20) is fitted with paper bristles (21) lodged in multiple holes drilled in it.

[0019] After describing in sufficient detail the nature of the present invention and the manner in which it is put into practice, its characteristics are defined in the attached claims.

## 10 Claims

1. Toilet brush with disposable head, of the type comprising a handle and a cleaning element and internally containing a liquid disinfectant, **characterised in that** it comprises two independent parts before use, namely a hollow cylindrical body (1) and a disposable brush that are secured to each other by means of a manually activated attachment mechanism formed by a resilient element.
2. A brush according to claim 1, **characterised in that** the hollow handle is occluded on both ends by means of rounded caps (2) and (3) which close the entry and exit of the liquid, the handle presenting circular concave undercuts (4) and (5) through which pressure is exerted on the disinfectant liquid container (6) lodged inside it.
3. A brush according to claim 1, **characterised in that** the attachment system comprises a manually activated spring (10), in a manner that, upon pressing the pushbuttons (7) and (8) located on the side of the cylindrical body (1) that forms the handle, said spring (10) attaching the pushbuttons produces the horizontal displacement of the bases (11) and (12) of the laminar stems (13) and (14) fitted with harpoon-shaped tips (15) and (16).
4. A brush according to claim 1, **characterised in that** the brush presents two rectangular grooves (17) and (18) in the base (19) of the semi-circumference (20), the handle and the brush becoming attached to each other when the harpoon-shaped tips (15) and (16) of the stems (13) and (14) are inserted in the widened area at the end of the grooves (17) and (18).
5. A brush according to claim 1, **characterised in that** the surface of the semi-circumference (20) contains paper bristles (21) lodged in multiple holes drilled therein.

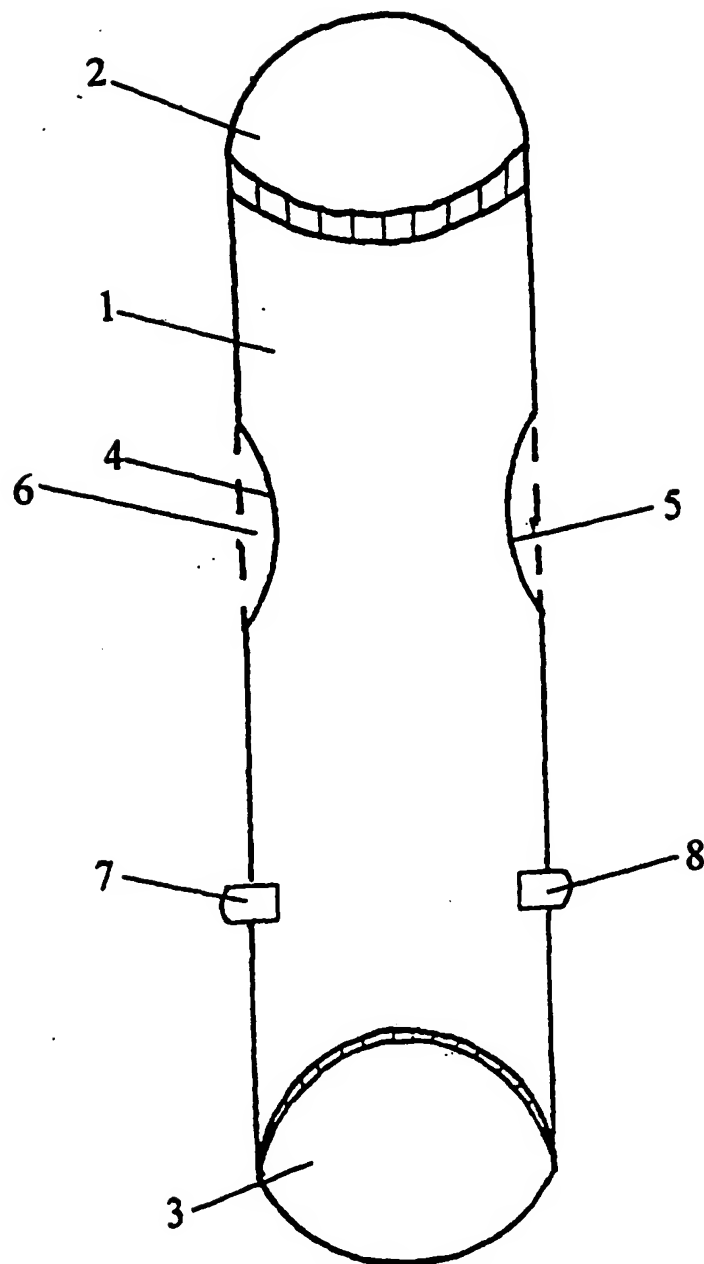


FIG. 1

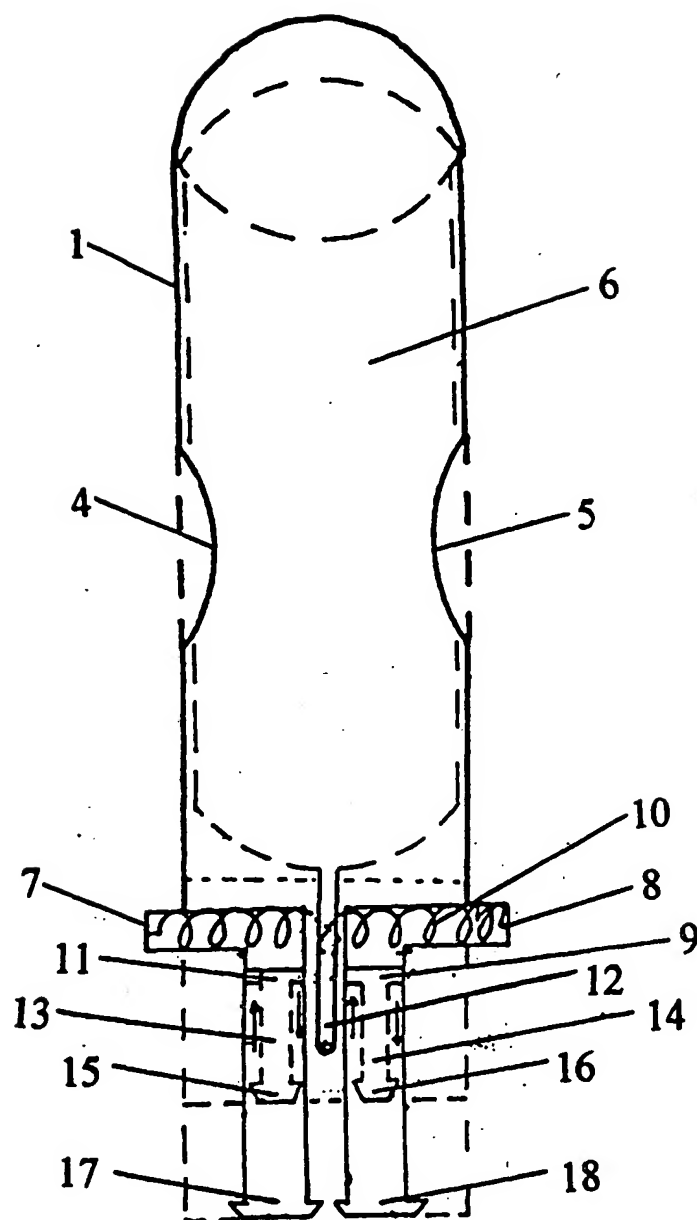


FIG. 2

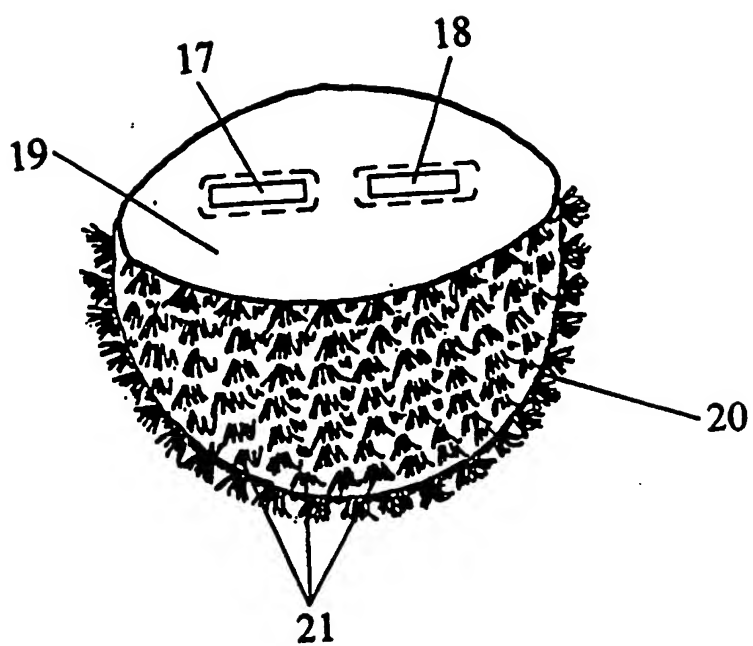


FIG. 3